UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,050	06/29/2000	Shigeo Honma	H-926	7679

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CHOUDHARY, ANITA

ART UNIT	PAPER NUMBER
2153	17

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 April 2004_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _13-36_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _13-17,22 and 28-36_ is/are rejected.

7)☐ Claim(s) _18-21 and 23-27_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

The amendment filed on April 30, 2004 under 37 CFR 1.312 has been entered.   Claims

13-16 have been amended and are presented for further examination. New claims 17-36 have

been added.   Claim 1-12 has been cancelled.

Claims 13-36 are presented.

Response to Arguments

Applicant's arguments with respect to claim 13-16 have been considered but are moot in

view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 13-15, 17, 22 and 28-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Patent No. 6,148,414 to Brown et al. (hereinafter "Brown") in view of U.S. Patent No.

6,640,278 to Nolan et al. (hereinafter "Nolan") in further view of "White Paper: Pathlight &

Computer Associates Deliver Server-Free Backup" (hereinafter Pathlight).

In considering claim 13, Brown discloses a computer system (Fig. 1) comprising:

a plurality of client computers (Fig. 1, "10_1" – "10_N");

a plurality of servers (Fig. 1, "20_1" – "20_N");

a plurality of storages which have multiple disk drives and keep data in said plurality of

disk drives (Fig. 1, "45");

a local area network (LAN) which connects said computers with said servers (column 6,

lines 14-18); and

a storage area network (SAN) forms a switched circuit network having fiber channel

switches and arranged to connect any of said servers and any of said storages through said fiber

channel switches (column 6, lines 45-46), and said computer system comprising:

a terminal, which is connected to said LAN and equipped with operation and

management software which performs storage management (Fig. 1, "30_1" – "30_N" and column 6,

lines 20-23).

Brown shows the substantial features of the claimed invention, including a terminal with

operation and management software, which performs storage management (the controllers which

include one or more AMFs [array management functions, which are defined as the body that

provides common control and management for one or more disk or tape arrays]). However,

Brown fails to explicitly disclose which type of management is performed by the array

management functions including *management of logical volumes in said storages, management*

of data arrangement including moving data in one of said logical volumes to another of said

logical volumes, management of error monitoring for said storages, management of setting up

said fiber channel switches, and management of a backup operation for data in said storages.

Nonetheless these features are well known in the art of storage management and would have been an obvious modification to the system disclosed by Brown, as evidenced by Nolan.

In an analogous art, Nolan discloses a method for management of storage resources in a storage network, including a system comprising a plurality of client servers and a plurality of storage devices connected via a SAN, with a storage management system with operation and management software performing storage management including management of logical volumes in said storages, management of data arrangement including moving data in one of said logical volumes to another of said logical volumes, management of error monitoring for said storages, management of setting up said fiber channel switches, and management of a backup operation for data in said storages (column 2, lines 39-41 and lines 49-52). Given this teaching of Nolan, a person of ordinary skill in the art would have readily recognized the advantages and desirability of modifying the system of Brown by incorporating these well-known features in order to provide scalability, high performance and reliability.

Although the combined teachings of Brown in view of Nolan shows substantial features of the claimed invention, as discussed above, it fails to *disclose management of a serverless backup operation for backing up data directly from one of said storages to a backup storage of said storages via said SAN without relaying said data via any of said servers or said terminal.* Nonetheless, this feature is well known in the art and would have been an obvious modification to the system shown by Brown and Nolan, as evidenced by Pathlight. White Paper: Pathlight & Computer Associates Deliver Server-Free Backup.

In an analogous art, Pathlight discloses a system for server free back up system on a SAN including management software for controlling of serverless backup operations (page 2).

Pathlight discloses a complete backing up process, which requires no relaying of data to a server, instead, ARCserveIT backup/restore application initiates backup to a backup storage device via server and intelligent SAN Gateway that enables sharing of storage resources across an entire enterprise. A backup interface application allows for administration and management of data (see page 3, first column lines 9-10). Data is moved from a source to a destination within the SAN (see figure 4).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Brown and Nolan to employ the features shown by Pathlight in order to increase server side performance (see page 3, last paragraph).

In referring to claim 14, 22, 31, 34, and 36 Brown shows SAN connected to network via WAN (col. 6 lines 19-20).

In referring to claim 15, Nolan shows a backup copy of data in a primary volume in said one storage is make to said backup storage in a non-disruptive manner, a secondary volume corresponding to the primary volume is created by internal functions in said one storage, copies are made from said primary volume to said secondary volume (col. 28 lines 15-20) the made copies are transferred from said secondary volume to said backup storage via said SAN without passing said LAN, and thereby backup is achieved (col. 27 lines 55-59).

In referring to claim 17, Pathlight shows software of said terminal realizes acquisition of statistical information of resources of said logical volumes (see page 3, second column lines 1-7, fig. 2).

In referring to claim 22, Brown shows SAN connected to network via WAN (col. 6 lines 19-20).

In referring to claim 28, Pathlight shows management of error monitoring for said storages, said operations and management software of said terminal collects failure reports from said storages (see page 3, second column lines 1-7, fig. 2, see also Nolan, col. 20 lines 41-50).

In referring to claim 29, and 32 Nolan shows performing management of setting up said fiber channel switches, said operation and management software of said terminal sets a plurality of respective zones of said fiber channel switches and assigns said zones to said server so as to restrict access to said storages in accordance with the zone assignments (see col. 2 lines 57-67).

In referring to claim 30, 33, and 35, in addition to the serverless backup operations disclosed by Pathlight, Nolan shows process of creating data in a second logical volume from logical volume; and causes a copy of said replica to be created in a backup storage (col. 24 line 56- col.25 line 10).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,148,414 to Brown et al. (hereinafter "Brown") in view of "White Paper: Pathlight & Computer Associates Deliver Server-Free Backup" (hereinafter Pathlight) in further view U.S. Patent No. 6,640,278 to Nolan et al. (hereinafter "Nolan").

In referring to claim 16, Brown discloses a computer system (Fig. 1) comprising:

a plurality of client computers (Fig. 1, "10_1" – "10_N");

a plurality of servers (Fig. 1, "20_1" – "20_N");

a plurality of storages which keep data (Fig. 1, "45");

a local area network (LAN) which connects said computers with said servers (column 6, lines 14-18); and

a storage area network (SAN) which lies between said servers and said storages (Fig. 1, "50");

wherein said SAN forms a switched circuit network having fiber channel switches and arranged to connect any of said servers and any of said storages through said fiber channel switches (column 6, lines 45-46).

Although Brown shows substantial features of the claimed invention, Brown fails to disclose *a backup copy of data in a primary volume in one of said storages is to be make to a backup storage of said storages in a non-disruptive manner in a server-less backup operation for backing up data directly from one of said storages to said backup storage without relaying said data via any of said servers, said one storages is arranged to receive a volume split instructions from one of said servers.* Nonetheless these feature is well known in the art, and would have been an obvious modification to the system disclosed by Brown as evidenced by Pathlight.

In an analogous art, Pathlight discloses a system for server free back up system on a SAN including management software for controlling of serverless backup operations (page 2). Pathlight discloses a complete backing up process, which requires no relaying of data to a server, instead, ARCserveIT backup/restore application initiates backup to a backup storage device via server and intelligent SAN Gateway that enables sharing of storage resources across an entire enterprise. The intelligent SAN Gateway receives a copy instruction that begins the backup process (see page 2 second column line 2-4). A backup interface application allows for

administration and management of data (see page 3, first column lines 9-10). Data is moved

from a source to a destination within the SAN (see figure 4).

Given this feature, a person of ordinary skill in the art would have readily recognized the

desirability and advantages of modifying the system shown by Brown and Nolan to employ the

features shown by Pathlight in order to increase server side performance (see page 3, last

paragraph).

Although the combined teachings of Brown and Pathlight shows substantial features of

the claimed invention, as discussed above, they do not specifically point out *a process as if data*

in the primary volume were kept in a secondary volume of said one or said storages s it is at the

time of receiving said instruction, and make the backup copy from said secondary volume to the

backup storage. Nonetheless, this feature is well known in the art and would have been an

obvious modification to the system shown by Brown and Pathlight as evidenced by Nolan.

In an analogous art Nolan shows process of keeping data in a secondary volume of said

within said storage as it is at the time of backup process, and the backup copy from said

secondary volume is copied to backup storage (col. 24 line 56- col.25 line 10).

Given this feature, a person of ordinary skill in the art would have readily recognized the

desirability and advantages of modifying the system shown by Brown and Pathlight to employ

the features shown by Nolan in order to arrange stored files in a more efficient and consistent

manner (see Nolan col. 24 lines 42-45).

Allowable Subject Matter

Claims 18-21 and 23-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
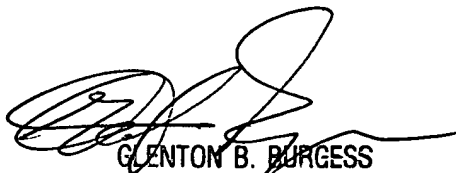
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita Choudhary whose telephone number is (703) 305-5268. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AC
July 23, 2004

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